ADVANCED INTEGRATION

ADLINK Leading EDGE COMPUTING

NEON-2000 Series

NVIDIA® Jetson™ TX2/Jetson™ Xavier NX-based Industrial AI Camera for the Edge

Features

- Integration of Jetson™ TX2 or Jetson™ Xavier NX, image sensor and vision software suites, ready to deploy.
- All-in-One design save the cabling, dimension and maintenance
- FPBA base DI/O for real-time and accurate triggering
- Type C for video, power and USB, save the connection
- 1x Micro SD slot for external storage (NEON-2000-JT2 and NEON-2000-JNX Series only)
- Four types of image sensors
- DI/O, 1x Lan and 1x Com
- Support C mount lens
- Support IP67 (NEON-2000-JT2-X Series)

Introduction

ADLINK NEON-2000 series is the NVIDIA® Jetson™ based industrial AI cameras, which integrates the Jetson Xavier NX or Jetson™ TX2, Image Sensor, Optimized OS, Rich I/O for vision applications in a compact chassis and verified thermal performance, that saves not only users' TCO (Total Cost Ownership) on the integration and trouble shooting, but also the dimension and cables on the installation.

With supporting four types image sensors, integration of DI/O, 1x communication port and 1x Lan port in a compact chassis, makes NEON-2000 series suitable for the AI vision application at the Edge.

For the harsh environment which needs the IP protection, NEON-2000-JT2-X Series supports IP67 which enables the AI vision ability for the critical applications.

Software Support

- Ubuntu 18.04 L4T(Linux for Tegra)
- Jetpack 4.3
- Basler Pylon 5.2.0.13457

Note: Supported software version will be updated according to NVIDIA's release

Accessory

- 1.8m Type C cable with screw lock
- Type C Adapter/Hub
- 2m DB 15 to 37 I/O extension cable
- I/O Extension Board (DIN37)
- 12V AC/DC adapter (for NEON-2000-JT2 and NEON-2000-JNX Series)
- C mount lens, focal length 8mm, aperture f1.4
- IP67 Type C cable (for NEON-2000-JT2-X Series)
- IP67 Ethernet cable (for NEON-2000-JT2-X Series)
- IP67 I/O & power cable (for NEON-2000-JT2-X Series)

Note: Use only recommended ADLINK power adapters and cables.

Ordering information

- **NEON-201B-JT2**
  NVIDIA® Jetson™ TX2, Color, 1.2M 54fps, global shutter
- **NEON-202B-JT2**
  NVIDIA® Jetson™ TX2, Color, 1.9M 60fps, global shutter
- **NEON-203B-JT2**
  NVIDIA® Jetson™ TX2, Color, 2M 30fps, rolling shutter
- **NEON-204B-JT2**
  NVIDIA® Jetson™ TX2, Color, 5M 14fps, rolling shutter
- **NEON-201B-JT2-X**
  NVIDIA® Jetson™ TX2, Color, 1.2M 54fps, global shutter, IP67
- **NEON-202B-JT2-X**
  NVIDIA® Jetson™ TX2, Color, 1.9M 60fps, global shutter, IP67
- **NEON-203B-JT2-X**
  NVIDIA® Jetson™ TX2, Color, 2M 30fps, rolling shutter, IP67
- **NEON-204B-JT2-X**
  NVIDIA® Jetson™ TX2, Color, 5M 14fps, rolling shutter, IP67
- **NEON-201B-JNX**
  NVIDIA® Jetson™ Xavier NX, Color, 1.2M 54fps, global shutter
- **NEON-202B-JNX**
  NVIDIA® Jetson™ Xavier NX, Color, 1.9M 60fps, global shutter
- **NEON-203B-JNX**
  NVIDIA® Jetson™ Xavier NX, Color, 2M 30fps, rolling shutter
- **NEON-204B-JNX**
  NVIDIA® Jetson™ Xavier NX, Color, 5M 14fps, rolling shutter

Specifications

Model Name	NEON-201B-JT2	NEON-202B-JT2	NEON-203B-JT2	NEON-204B-JT2
Image Sensor spec.				
Resolution (HxV)	1280x960	1600x1200	1920x1080	2592x1944
Resolution	1.2M	1.9M	2M	5M
Frame Rae(fps)	54	60	30	14
Color/Mono	Color	Color	Color	Color
Shutter	Global	Global	Rolling	Rolling
Sensor Size	1/3"	1/1.8"	1/3.7"	1/2.5"
Pixel Size(μm)	3.75 x 3.75	4.5 x 4.5	2.2 x 2.2	2.2 x 2.2
Sensor Vendor	ON Semiconductor	e2v	ON Semiconductor	ON Semiconductor
Sensor Model	AR0134	EV76C570	MT9P031	MT9P031
Lens mount	C Mount			
Image sensor Trigger mode	External H/W trigger, S/W trigger, free run			
System Spec.				
Computing platform	NVIDIA® Jetson™ TX2			
Processor	ARM Cortex-A57 and NVIDIA® Denver 2			
Supported OS	Ubuntu 18.04			
GPU	256 core NVIDIA® Pascal GPU			
Memory/Sotrage	8GB LPDDR4/32G eMMC (built-in TX2 module)			
Connectors and functions				
Ethernet	Support 10/100/1000 Mb			
Type C	Video output(Display Port), 1920x1080 @ 30fps			
	1xUSB3 and 1xUSB2			
	Power supply for the camera (when connect to the Type C charger or adaptor)			
	Power supply (5 W) for external Type C Hub (when connect to Type C hub)			
D_Sub	4xDI and 4xDO			
	1xUART (TXD, RXD, GND)			
Micro USB	USB OTG (for system flash)			
Micro SD slot	For extend storage			
Wafer connector	For the system flash			
Mechanical & Power				
Dimension	123.3 x 77.5 x 66.81 mm			
Weight	700g			
Power Input	DC Jack (DC12V) or Type C(DC15V)			
Power Consumption	<30W (camera only)			
Environmental & Certification				
Operating Temperature	0°C to 45°C			
Storage Temperature	-20°C to 70°C			
Humidity	40%~75% (non-condensing)			
Vibration	Operating, 5 ~ 500 Hz, 5 Grms, 3 axes			
Shock	Operating, 11ms duration, 30G, half sine, 3 axes			
ESD	Contact +/- 4kV, Air +/- 8kV			
EMC	CE and FCC Class A (EN61000-4/-2)			
Safety	UL and cB			

Note: the DC power source can be either from the DC jack or frm the Type C

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Specifications

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Model Name	NEON-201B-JT2-X	NEON-202B-JT2-X	NEON-203B-JT2-X	NEON-204B-JT2-X
Image Sensor spec.				
Resolution (HxV)	1280x960	1600x1200	1920x1080	2592x1944
Resolution	1.2M	1.9M	2M	5M
Frame Rae(fps)	54	60	30	14
Color/Mono	Color	Color	Color	Color
Shutter	Global	Global	Rolling	Rolling
Sensor Size	1/3"	1/1.8"	1/3.7"	1/2.5"
Pixel Size(μm)	3.75 x 3.75	4.5 x 4.5	2.2 x 2.2	2.2 x 2.2
Sensor Vendor	ON Semiconductor	e2v	ON Semiconductor	ON Semiconductor
Sensor Model	AR0134	EV76C570	MT9P031	MT9P031
Lens mount	C Mount			
Image sensor Trigger mode	External H/W trigger, S/W trigger, free run			
Protection				
Ingress Protection	IP67			
System Spec.				
Computing platform	NVIDIA® Jetson™ TX2			
Processor	ARM Cortex-A57 and NVIDIA Denver 2			
Supported OS	Ubuntu 18.04			
GPU	256 core NVIDIA Pascal GPU			
Memory/Sotrage	8GB LPDDR4/32G eMMC (built-in TX2 module) and 64G from internal MicroSD card			
Connectors and functions				
M12 8 Pin FML for Etheret	Support 10/100/1000 Mb			
M12 Type C FML for Video, USB and power	Video output(Display Port), 1920x1080 @ 30fps			
	1xUSB3 and 1xUSB2			
	Power supply for the camera (when connect to the Type C charger or adaptor, DC 15V/2A)			
	Power supply (5 W) for external Type C Hub (when connect to Type C hub)			
M12 17 Pin FML for I/O and power	2xDI and 2xDO			
	1xUART (TXD, RXD, GND)			
	USB port & I/O for flashing the TX2			
	DC 24V power input			
Mechanical & Power				
Dimension	137.3 x79.55x 74.85 mm			
Weight	900g			
Power Consumption	<30W (camera only)			
Environmental & Certification				
Operating Temperature	0°C to 45°C			
Storage Temperature	-20°C to 70°C			
Humidity	40%~75% (non-condensing)			
Vibration	Operating, 5 ~ 500 Hz, 5 Grms, 3 axes			
Shock	Operating, 11ms duration, 30G, half sine, 3 axes			
ESD	Contact +/- 4kV, Air +/- 8kV			
EMC	CE and FCC Class A (EN61000-4/-2)			
Safety	UL and cB			

Note: the DC power source can be either from the M12 17 Pin or M12 Type C connector

Specifications

Model Name	NEON-201B-JNX	NEON-202B-JNX	NEON-203B-JNX	NEON-204B-JNX
Image Sensor spec.				
Resolution (HxV)	1280x960	1600x1200	1920x1080	2592x1944
Resolution	1.2M	1.9M	2M	5M
Frame Rae(fps)	54	60	30	14
Color/Mono	Color	Color	Color	Color
Shutter	Global	Global	Rolling	Rolling
Sensor Size	1/3"	1/1.8"	1/3.7"	1/2.5"
Pixel Size(μm)	3.75 x 3.75	4.5 x 4.5	2.2 x 2.2	2.2 x 2.2
Sensor Vendor	ON Semiconductor	e2v	ON Semiconductor	ON Semiconductor
Sensor Model	AR0134	EV76C570	MT9P031	MT9P031
Lens mount	C Mount			
Image sensor Trigger mode	External H/W trigger, S/W trigger, free run			
System Spec.				
Computing platform	NVIDIA® Jetson™ Xavier NX			
Processor	6-core NVIDIA Carmel ARM® v8.2 64-bit CPU			
Supported OS	Ubuntu 18.04			
GPU	384-core NVIDIA® Volta™ GPU with 48 Tensor Cores			
Memory/Sotrage	8GB LPDDR4/16G eMMC (built-in NX module)			
Connectors and functions				
Ethernet	Support 10/100/1000 Mb			
Type C	Video output(Display Port), 1920x1080 @ 30fps			
	1xUSB3 and 1xUSB2			
	Power supply for the camera (when connect to the Type C charger or adaptor)			
	Power supply (5 W) for external Type C Hub (when connect to Type C hub)			
D_Sub	4xDI and 4xDO			
	1xUART (TXD, RXD, GND)			
Micro USB	USB OTG (for system flash)			
Micro SD slot	For extend storage			
Wafer connector	For the system flash			
Mechanical & Power				
Dimension	123.3 x 77.5 x 66.81 mm			
Weight	700g			
Power Input	DC Jack (DC12V) or Type C(DC15V)			
Power Consumption	<30W (camera only)			
Environmental & Certification				
Operating Temperature	0°C to 45°C			
Storage Temperature	-20°C to 70°C			
Humidity	40%~75% (non-condensing)			
Vibration	Operating, 5 ~ 500 Hz, 5 Grms, 3 axes			
Shock	Operating, 11ms duration, 30G, half sine, 3 axes			
ESD	Contact +/- 4kV, Air +/- 8kV			
EMC	CE and FCC Class A (EN61000-4/-2)			
Safety	UL and cB			

Note: the DC power source can be either from the DC jack or frm the Type C

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